

Appln No. 09/885,307

Amdt date May 23, 2005

Reply to Office action of February 23, 2005

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. (Currently Amended) In a communication network including a user station, a method for creating a customized audio program comprising ~~the steps of:~~

automatically processing audio signals of an audio piece  
[[for]] and compiling audio characteristic information including  
acoustic information associated with the audio piece based on  
the automatically processed audio signals;

receiving user audio preference information;

comparing the user audio preference information with the  
audio characteristic information; [[and]]

selecting the audio piece based on the comparison and  
further based on a detected broadcast time scheduled for the  
audio piece; ~~for including into the customized audio program.~~

receiving the audio piece broadcast according to the  
scheduled broadcast time;

storing at least a portion of the received audio piece;

detecting a playback condition; and

outputting at least the portion of the received audio piece  
responsive to the detected playback condition.

2. (Original) The method of claim 1, wherein the audio characteristic information indicates subject matter content of the associated audio piece.

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3. (Original) The method of claim 1, wherein the audio piece includes music.

4. (Original) The method of claim 1, wherein the audio piece includes voice.

5. (Original) The method of claim 1, wherein the audio piece includes an advertisement.

6. (Original) The method of claim 1, wherein the user audio preference information is associated with a particular theme, the method further comprising the steps of:

receiving a user selection for the particular theme; and  
identifying the user preference information associated with the particular theme.

7-8. (Canceled)

9. (Currently Amended) The method of claim ~~[[8]]~~1, wherein the ~~step of transmitting comprises the step of transmitting the audio piece and~~, the audio characteristic information, or both, is received over a radio broadcast network.

10. (Canceled)

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11. (Currently Amended) The method of claim ~~[[10]]~~1, wherein the ~~step of transmitting comprises transmitting the selected audio piece,~~ the audio characteristic information, or both, is received over a computer network.

12. (Currently Amended) In a communication network including a user station, a method for creating a customized audio program ~~comprising the steps of:~~

receiving user audio preference information;

receiving audio characteristic information associated with a plurality of audio pieces, the plurality of audio pieces being broadcast to the user station over one or more broadcast channels, the audio characteristic information including acoustic information;

comparing the user audio preference information with the audio characteristic information;

identifying a particular audio piece based on the comparison and further based on a detected broadcast time scheduled for the audio piece;

automatically tuning to one of the broadcast channels broadcasting the particular audio piece in response to the identification;

~~receiving the particular audio piece over one of the broadcast channels; and~~

storing at least a portion of the received audio piece in memory;

detecting a playback condition; and

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outputting at least the portion of the received audio piece responsive to the detected playback condition.

13. (Original) The method of claim 12, wherein the audio characteristic information indicates subject matter content of the associated audio piece.

14. (Original) The method of claim 12, wherein the plurality of audio pieces include music.

15. (Original) The method of claim 12, wherein the plurality of audio pieces include voice.

16. (Original) The method of claim 12, wherein the plurality of audio pieces include advertisements.

17. (Original) The method of claim 12, wherein the user audio preference information is associated with a particular theme, the method further comprising the steps of:  
receiving a user selection for the particular theme; and  
identifying the user audio preference information associated with the particular theme.

18. (Currently Amended) In a communication network including a user station, a method for creating a customized audio program comprising ~~the steps of~~:  
receiving a plurality of audio pieces from one or more audio sources;

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storing the received plurality of audio pieces in a first database;

automatically processing audio signals of an-at least one of the plurality of audio piece pieces in the first database and, based on the automatic processing of the audio signals, generating an audio feature vector having a plurality of first fields representing a plurality of audio characteristics, each first field storing a value representing an extent of the associated audio characteristic present in the audio piece; for  
~~compiling audio characteristic information including acoustic information associated with the audio piece;~~

~~storing the audio characteristic information in a second database;~~

receiving user audio preference information;

generating a user preference vector based on the user audio preference information, the user preference vector having a plurality of second fields representing the audio characteristics represented by the plurality of first fields, each second field storing a value for the corresponding audio characteristic based on the user audio preference information;

computing a distance between the audio feature vector and the user audio preference vector;

~~comparing the user audio preference information with the audio characteristic information;~~

selecting the audio piece based on the computed distance  
~~comparison;~~ and

transmitting the selected audio piece to a user station over a computer network.

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19. (Original) The method of claim 18, wherein the audio characteristic information indicates subject matter content of the associated audio piece.

20. (Original) The method of claim 18, wherein the audio piece includes music.

21. (Original) The method of claim 18, wherein the audio piece includes voice.

22. (Original) The method of claim 18, wherein the audio piece includes an advertisement.

23. (Original) The method of claim 18, wherein the user audio preference information is associated with a particular theme, the method further comprising the steps of:  
receiving a user selection for the particular theme; and  
identifying the user preference information associated with the particular theme.

24. (Currently Amended) A system for creating a customized audio program comprising:

a first processor processing audio signals of an audio piece [[for]] and compiling audio characteristic information including acoustic information associated with the audio piece based on the processed audio signals;

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a first input receiving user audio preference information;  
and

a second processor coupled to the first input for:

comparing the user audio preference information with  
the audio characteristic information, [[and]]

selecting the audio piece ~~for including into the~~  
~~customized audio program~~ based on the comparison and further  
based on a detected broadcast time scheduled for the audio  
piece,

receiving the audio piece broadcast according to the  
scheduled broadcast time,

storing at least a portion of the received audio  
piece, and

outputting at least the portion of the received audio  
piece responsive to the detected playback condition.

25. (Original) The system of claim 24, wherein the  
audio characteristic information indicates subject matter  
content of the associated audio piece.

26. (Original) The system of claim 24, wherein the  
audio piece includes music.

27. (Original) The system of claim 24, wherein the  
audio piece includes voice.

28. (Original) The system of claim 24, wherein the  
audio piece includes an advertisement.

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29. (Original) The system of claim 24, wherein the user audio preference information is associated with a particular theme, the system further comprising a third input at the user station for receiving a user selection for the particular theme.

30. (Canceled)

31. (Original) The system of claim 24 further comprising a transmitter coupled to the first processor for transmitting the audio piece and the audio characteristic information to a user station.

32. (Currently Amended) The system of claim ~~[[31]]~~24, wherein the ~~transmitter transmits the audio piece and,~~ the audio characteristic information, or both, is received over a radio broadcast network.

33. (Currently Amended) The system of claim 24 ~~further comprising a network connection for transmitting the selected,~~ wherein the audio piece, the audio characteristic information, or both, is received ~~to a user station over a computer network.~~

34. (Currently Amended) A system for creating a customized audio program comprising:

a first input for receiving user audio preference information;

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a second input for receiving audio characteristic information associated with an audio piece, the audio characteristic information including acoustic information;

a processor coupled to the first input and the second input, the processor comparing the user audio preference information with the audio characteristic information and selecting a particular audio piece based on the comparison and further based on a detected broadcast time scheduled for the audio piece;

a tuner coupled to the processor for automatically tuning to one of a plurality of broadcast channels ~~a channel carrying broadcasting the audio piece~~ according to one of the scheduled broadcast times; and

a memory coupled to the processor and the tuner for storing at least a portion of the received audio piece;

means for detecting a playback condition; and

means for outputting at least the portion of the received audio piece responsive to the detected playback condition.

35. (Original) The system of claim 34, wherein the audio characteristic information indicates subject matter content of the associated audio piece

36. (Original) The system of claim 34, wherein the plurality of audio pieces include music.

37. (Original) The system of claim 34, wherein the plurality of audio pieces include voice.

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38. (Original) The system of claim 34, wherein the plurality of audio pieces include advertisements.

39. (Original) The system of claim 34, wherein the user audio preference information is associated with a particular theme, the system further comprising a third input for receiving a user selection for the particular theme.

40. (Currently Amended) A system for transmitting a customized audio program comprising:

means for receiving a plurality of audio pieces;

a first database coupled to the means for receiving for storing the received plurality of audio pieces;

a first processor processing audio signals of an at least one of the plurality of audio piece-pieces in the first database and, based on the automatic processing of the audio signals, generating an audio feature vector having a plurality of first fields representing a plurality of audio characteristics, each first field storing a value representing an extent of the associated audio characteristic present in the audio piece ~~for compiling audio characteristic information including acoustic information associated with the audio piece;~~

~~a second database coupled to the first processor for storing the audio characteristic information;~~

an input for receiving user audio preference information;

a second processor coupled to the first database, the second database, and the input, the second processor ~~comparing~~

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~~the user audio preference information with the audio characteristic information~~ generating a user preference vector based on the user audio preference information, the user preference vector having a plurality of second fields representing the audio characteristics represented by the plurality of first fields, each second field storing a value for the corresponding audio characteristic based on the user audio preference information, the second processor further computing a distance between the audio feature vector and the user audio preference vector and selecting the audio piece based on the computed distance ~~comparison;~~

a network connection coupled to the second processor for transmitting the selected audio piece to a user station over a computer network.

41. (Original) The system of claim 40, wherein the audio characteristic information indicates subject matter content of the associated audio piece.

42. (Original) The system of claim 40, wherein the audio piece includes music.

43. (Original) The system of claim 40, wherein the audio piece includes voice.

44. (Original) The system of claim 40, wherein the audio piece includes an advertisement.

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45. (Original) The system of claim 40, wherein the user audio preference information is associated with a particular theme, and the input further receives a user selection for the particular theme.

46. (New) The method of claim 1, wherein the comparing and selecting of the audio piece are preformed by a user station receiving the audio piece broadcast according to the scheduled broadcast time.

47. (New) The method of claim 12, wherein the broadcast channels are data communication channels transmitting the plurality of audio pieces over a computer network.

48. (New) The system of claim 24, wherein the first processor is equal to the second processor.

49. (New) The system of claim 34, wherein the broadcast channels are data communication channels transmitting a plurality of audio pieces over a computer network.

50. (New) The system of claim 40, wherein the first processor is equal to the second processor.

51. (New) A system for creating a customized audio program comprising:

a processor automatically processing and generating acoustic analysis data for a plurality of audio pieces;

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one or more transmitters transmitting the plurality of audio pieces over a plurality of broadcast channels according to broadcast times scheduled for the plurality of audio pieces;

a user station including a tuner and a buffer, the user station being configured to:

receive user preference data;

retrieve the acoustic analysis data for the plurality of audio pieces;

compare the user preference data with the acoustic analysis data;

select one or more of the plurality of audio pieces based on the comparison and further based on detected broadcast times scheduled for the one or more of the plurality of audio pieces;

control the tuner to automatically tune to one or more of the broadcast channels broadcasting the one or more of the plurality of audio pieces in response to the selection;

store the one or more of the plurality of audio pieces tuned to by the tuner in the buffer;

detect a playback condition; and

output the audio pieces stored in the buffer responsive to the detected playback condition.

52. (New) The system of claim 51 wherein the user station sets a new play time for at least one of the one or more of the plurality of audio pieces, and automatically plays the audio pieces stored in the buffer based on the new play time.

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53. (New) The system of claim 51, wherein the broadcast channels are data communication channels transmitting the plurality of audio pieces over a computer network.

54. (New) A computer-implemented method for creating a customized audio program comprising:

comparing user acoustic preference data with acoustic analysis data associated with a plurality of audio pieces;

selecting two or more of the plurality of audio pieces based on the comparison and further based on detected broadcast times scheduled for the two or more of the plurality of audio pieces;

receiving the plurality of audio pieces broadcast via a plurality of broadcast channels according to scheduled broadcast times;

automatically switching between two or more of the broadcast channels for tuning to the selected two or more of the plurality of audio pieces according to their scheduled broadcast times; and

generating an output based on the tuned audio pieces.

55. (New) The system of claim 54, wherein the broadcast channels are data communication channels transmitting the plurality of audio pieces over a computer network.